**FLATHEAD COUNTY PLANNING AND ZONING OFFICE**
**MAJOR LAKESHORE VARIANCE (#FLV-21-06)**
**MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS**
**JANUARY 25, 2022**

A report regarding a request by Hafferman Engineering, on behalf of Montana Fish, Wildlife and Parks (MFWP) for a major variance to the Flathead County Lake and Lakeshore Protection Regulations (FCLR) to allow for the application of 3,585 cubic yards of various rock fill to create a dynamic equilibrium beach. The variance is being requested because the proposal exceeds the limit of 1 cubic yard of fill per 16 lineal feet of shoreline, below average high water, and greater than six inches in depth. The proposed variance is located within the Lakeshore Protection Zone (LPZ) on Flathead Lake.

## I. GENERAL INFORMATION

### A. Application Personnel

**i. Owner**
MFWP
PO Box 200701
Helena, MT 59620

**ii. Applicant**
Hafferman Engineering Inc.
PO Box 1690
Libby, MT 59923

**iii. Contractor**
Freshwater Map
PO Box 166
Dr. Mark Lorang
Bigfork, MT 59911

### B. Property Location and Size

The subject property is located south of Somers Road in Somers, MT (Figure 1). The two tracts have approximately 1,985 feet of shoreline and can be legally described as Tract 4AA and 1A in Section 25, Township 27 North, Range 21 West, P.M.M., Flathead County, Montana.

**Figure 1:** Subject property (location of project in red)

**C. Summary of Request**

This is a Major Variance for the placement of fill below the average high water, greater than six inches in depth, and more than one cubic yard per sixteen lineal feet of lake frontage. The applicant is seeking to place 600 cubic yards of 3" to 6" minus drain rock on 200 ft. of lakeshore frontage on Tract 4AA and 3,785 cubic yards of 2-inch pit run 1,785 ft. of lakeshore frontage on Tract 1A.

The applicant is proposing the variance to protect the property and restore as much critical wetland habitat as possible. According to the applicant, "*A mixture of gravels and sand in the pit run gravel is necessary to combine with the depositional peat and logs to create a substrate that will allow recolonization with a variety of grasses, and other herbaceous plants and shrubs. Approximately 30 root-wads with 20 ft stems will also be placed in strategic locations to create a complex shoreline necessary to minimize the mechanisms associated with longshore transport of gravel*."

As part of the proposal the applicant will be placing substantial planting substrate landward of the gravel beach. This will allow for the seeding of the restored emergent wetland with native wetland plats the planting of plugs.

**D. Section of the Regulations the Variance Request Applies to:**

With this Major Variance, the applicant is requesting a variance to the following section of the Flathead County Lake & Lakeshore Protection Regulations:

1) Section 4.3(F)(2)(h)(2) - Application of rock is not permitted in the following areas: wetlands and sites subject to strong wave action or currents; sites covered predominately by vegetation; or below average low water.
2) Section 4.3(F)(2)(h)(5) - Maximum fill depth is four to six inches.
3) Section 4.3(F)(2)(h)(6) - The volume of fill shall not exceed one cubic yard per sixteen lineal feet of lake frontage.

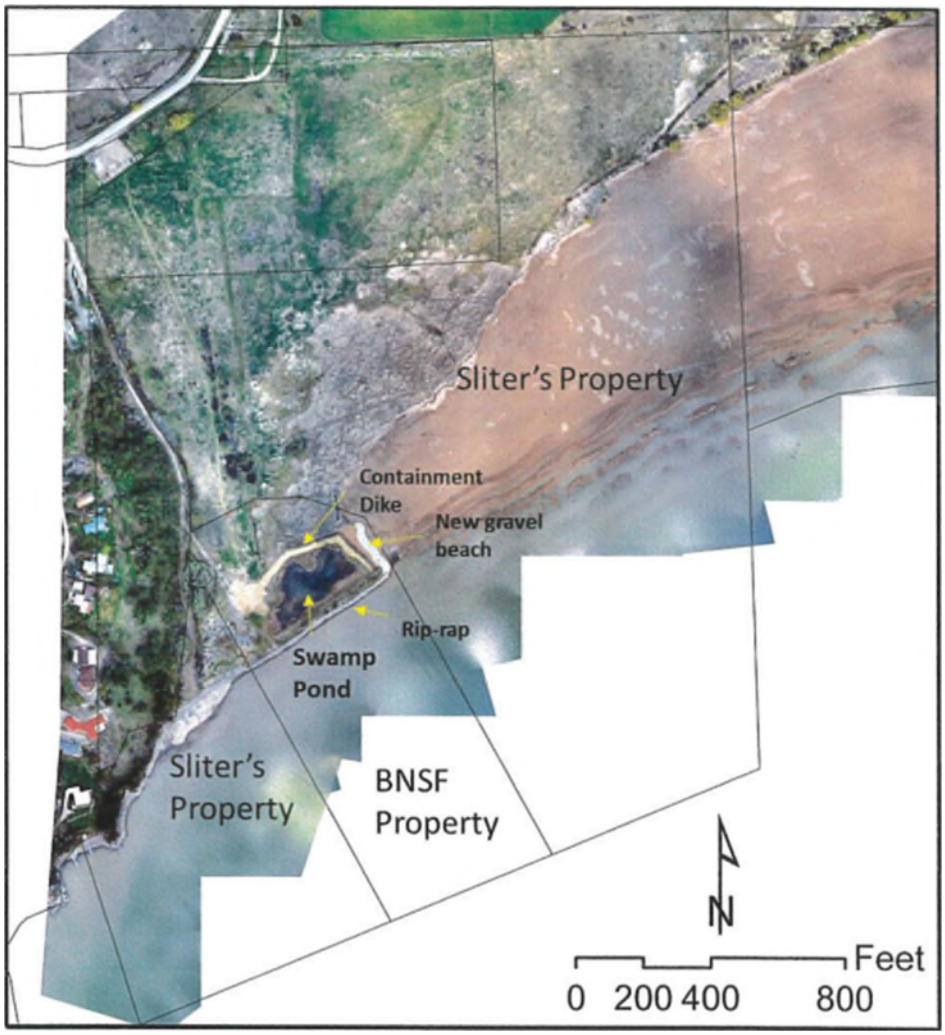
## II. EVALUATION OF REQUEST:

The criteria set forth in the Flathead County Lake & Lakeshore Protection Regulations Section 5.1(A) regarding Major Variances were used to determine findings of fact and to evaluate the variance request as outlined below:

**A. Due to unusual circumstances a strict enforcement of such requirements and standards would result in undue hardship.**

The subject property is located on either side of the former railway Somers Tie Treating Plant. Railroad ties were chemically treated for preservation at the site, the wastewater from the process was released on-site and is currently contained in the Swamp Pond. According to the application, "*BNSF maintains what they call a 'swamp pond' that is fronted by rock riprap on the south side facing the lake, gravel beach and a containment dike on the east and north boundaries. These structures were built to keep the swamp pond contained and protected from wave erosion. Unfortunately, the new gravel beach shown in figure 6 (*Figure 2 of this Staff Report*) will funnel wave energy directly at the unprotected shoreline comprising the Sliter's (*Now MFWP*) property and result in more loss of land and property and at an accelerated rate.*"

**Figure 2**: Swamp Pond, BNSF erosion prevention, Sliter's labeled property now MFWP owned




Additionally, the applicant feels the property contains valuable wetland that cannot be replaced without the variance. The strong wave action will continue to erode the subject property resulting in continued loss of land, and wetland. According to Dr. Lorang, "*Building gravel beaches as shore protection structures has been a permittable and accepted approach to the problem of shoreline erosion in Flathead Lake for nearly three decades now beginning in 1989 when the first perched-gravel beach was built in the lake*."

**Finding #1 –** Due to unusual circumstances a strict enforcement of the fill requirements could result in undue hardship because strong wave action will continue to erode the subject property resulting in continued loss of wetlands, potential compromising of the Swamp Pond, loss of land of the subject property and increased erosion on adjacent lots.

**B. No reasonable alternatives exist which do meet the standards herein.**

No action would result in the continued loss of land on the subject property. Rip rap and retaining walls could prevent erosion and the loss of land but because the strong wave action will continue to erode either side of the rip rap or retaining wall, a delayed erosion process would likely be the result. Additionally, a retaining wall would cut-off the direct hydrological

connection to the lake, destroying the lake-wetland ecosystem. Using only rip rap or retaining walls would not allow for revegetation and would not restore wetlands.

**Finding #2 –** No other alternatives appear to exist which meets the standards for the Lake and Lakeshore Protection Regulations that would stop the loss of land due to erosion and accommodate wetland preservation because strong wave action has the potential to continue erosion of the land on either side of the property if rip rap or retaining walls are contemplated.

**C. Granting of the variance will not have adverse impacts on the lake or lakeshore in terms of Section 4.1 "Policy Criteria for Issuance of a Permit".**

The proposed action shall not, during either its construction or its utilization:

**i. Materially diminish water quality;**

The use of unwashed fill would allow for vegetation to naturally grow and restore the wetlands on the property. The application states, "*Wave attenuation associated with the offshore gravel beach is anticipated to dissipate wave forces by as much as 25%; however, emergent wetlands also attenuate wave forces and increase sediment stability via both direct and indirect mechanisms.*"

Natural vegetation can prevent erosion and reduce discharge of sedimentation and nutrients into the water as stated in Section 4.2(D)(2)(d) of the Lake and Lakeshore Protection Regulations. Section 4.2(D)(2)(d) states, *"Natural vegetation shall be provided, if required, as a means of stabilizing erosive areas."* The fill material is not anticipated to diminish water quality.

**ii. Materially diminish habitat for fish or wildlife;**

During reconstruction of the modified dynamic beach, fish habitat won't be affected since construction will take place at low pool, per FCLR 4.2(A)(2)(a). When the lake is at full pool, the habitat for fish should not be diminished, as the materials are natural and native and thus will not produce any uncharacteristic disturbances.

The use of unwashed fill would allow for vegetation to naturally grow and restore the wetlands on the property. Natural vegetation can prevent erosion and reduce discharge of sedimentation and nutrients into the water as stated in Section 4.2(D)(2)(d) of the Lake and Lakeshore Protection Regulations. Section 4.2(D)(2)(d) states, *"Natural vegetation shall be provided, if required, as a means of stabilizing erosive areas."* The applicant has provided two documents that show this proposal will lead to improvements to habitat. This request is not only for the prevention of future wetland loss, but it also provides engineering that will increase the current wetland areas. The fill material is not anticipated to diminish habitat for fish and has the potential to increase and enhance habitat for wildlife.

**Finding #3 –** Allowing the variance would not materially diminish water quality or habitat for fish or wildlife because the fill would be installed at low pool, and it would allow for natural revegetation which would reduce run-off and create habitat for wildlife.

**iii. Interfere with navigation or other lawful recreation;**

The location of the fill placement is on private property and is not likely to interfere with navigation or other lawful recreation. However, according to the applicant, the purpose of the project is to allow for public access year-round to Flathead Lake. While much of the fill will be located below high water, the location and slope of the gravel

will be placed so as to not affect navigation but instead dissipate wave action that causes erosion.

**iv. Create a public nuisance;**

The location of the fill placement is on private property and is not likely to create a public nuisance. Drift logs accumulate on the north shore of Flathead Lake and the application indicates these will be required to stay as an important component of the dynamic equilibrium beach. All materials will be natural and native to the area and the design, as noted above, will reduce erosion to adjacent property. Because the proposed dynamic beach will be done in a manner that appears as natural as possible and will reduce erosion to the shoreline and restore wetlands on the subject property and adjacent properties, the proposal is not anticipated to create a public nuisance.

**Finding #4 –** Allowing the variance would not interfere with navigation or other lawful recreation or create a public nuisance because the creation of the dynamic beach would allow for the shoreline to naturally vegetate by trapping fines, sands, logs and peat material, the applicant would allow for public access year-round to Flathead Lake, and the proposed dynamic beach will be done in a manner that appears as natural as possible and will reduce erosion to the shoreline and restore wetlands on the subject property and adjacent properties.

**v. Create a visual impact discordant with natural scenic values, as determined by the governing body, where such values form the predominant landscape elements; and,**

The shoreline has a naturally occurring wetland that borders the open water of the lake. The project is characteristic of the existing surrounding environment, as it utilizes natural materials and aims at restoring the existing environment and habitat. The proposal will be similar to the rest of the softly armored north shore with natural, wood, stone and vegetation. Section 4.2(D)(2)(d) states, *"Natural vegetation shall be provided if required as a means of stabilizing erosive areas."* The use of unwashed fill would allow for vegetation to naturally occur and restore the wetlands on the property. By allowing unwashed fill, natural vegetation will take root and not create a visual impact discordant with natural scenic values.

**vi. Alter the characteristic of the shoreline.**

The proposed application of rock is not anticipated to drastically alter the characteristic of the shoreline but will instead rehabilitate the dynamic equilibrium gravel beach which will in turn preserve and increase the wetlands. While erosion abatement alternatives including retaining walls and rip rap may protect the shoreline of the subject property, they do not appear to be protect the natural characteristic of the north shore shoreline and could negatively impact adjacent properties due to end scouring. Although the shoreline will be altered, it will be altered in such a way that will aim to maintain and enhance its existing natural characteristics of the subject property and, to the greatest extent possible, adjacent properties.

**Finding #5 –** The variance will likely not create a visual impact discordant with natural scenic values or alter the characteristics of the shoreline because unwashed fill will allow for natural vegetation to take root and will restore wetlands and return a natural state to the subject property.

## III. SUMMARY OF FINDINGS

1. Due to unusual circumstances a strict enforcement of the fill requirements could result in undue hardship because strong wave action will continue to erode the subject property resulting in continued loss of wetlands, potential compromising of the Swamp Pond, loss of land of the subject property and increased erosion on adjacent lots.
2. No other alternatives appear to exist which meets the standards for the Lake and Lakeshore Protection Regulations that would stop the loss of land due to erosion and accommodate wetland preservation because strong wave action has the potential to continue erosion of the land on either side of the property if rip rap or retaining walls are contemplated.
3. Allowing the variance would not materially diminish water quality or habitat for fish or wildlife because the fill would be installed at low pool, and it would allow for natural revegetation which would reduce run-off and create habitat for wildlife.
4. Allowing the variance would not interfere with navigation or other lawful recreation or create a public nuisance because the creation of the dynamic beach would allow for the shoreline to naturally vegetate by trapping fines, sands, logs and peat material, the applicant would allow for public access year-round to Flathead Lake, and the proposed dynamic beach will be done in a manner that appears as natural as possible and will reduce erosion to the shoreline and restore wetlands on the subject property and adjacent properties.
5. The variance will likely not create a visual impact discordant with natural scenic values or alter the characteristics of the shoreline because unwashed fill will allow for natural vegetation to take root and will restore wetlands and return a natural state to the subject property.

## IV. CONCLUSION:

Per Section 5.1 of the Flathead County Lake and Lakeshore Protection Regulations a review and evaluation by staff comparing the proposed variance for the placement of fill in a wetland, a site subject to strong wave action, and below average high water, greater than six inches in depth and more than one cubic yard per sixteen lineal feet of lake frontage to the general criteria for a Major Variance requests has found the proposal to generally comply with the review criteria, based upon the draft Findings of Fact presented above.

## V. CONDITIONS OF APPROVAL:

### A. Standard Conditions of Approval:

1. No other activities are permitted within the Lakeshore Protection Zone other than those listed and/or conditioned by this permit.
2. Mechanized vehicles shall be allowed on the lakeshore only in connection with this project. Should any vehicle slice, gouge, or rut the beach, become stuck or expose clay, silts, and fine sands, said vehicle shall be immediately removed from the Lakeshore Protection Zone and an alternative procedure shall follow [Section 4.2(D)(2)(e)].
3. No vehicle shall come in contact with the lake water.
4. All construction debris shall be disposed of outside the Lake and Lakeshore Protection Zone in such a manner and in such a location so as to prohibit its reentry into the lake, per Section 4.2(F)(2).
5. Temporary stockpiling of materials is prohibited in the Lakeshore Protection Zone [Section 4.2(C)(2)(b)].

6. No treated wood or materials are allowed within the Lakeshore Protection Zone.
7. Wet concrete shall not be poured into or allowed to come in contact with the lake water [Section 4.2(B)(2)(e)(3)].
8. This permit must follow the dimensions and project description as submitted, unless amended by the Flathead County Lake and Lakeshore Protection Regulations.

**B. Project Specific Conditions of Approval:**

9. Placement of fill directly into the waters of any lake is prohibited [Section 4.3(F)(2)(h)].
10. All work shall be done when Flathead Lake is at low pool [Section 4.2(A)(2)].

Planner: LS